

SENSOR SYSTEMS AND METHODS FOR QUANTIFICATION OF PHYSICAL
PARAMETERS, CHEMICAL AND BIOCHEMICAL VOLATILE AND
NONVOLATILE COMPOUNDS IN FLUIDS

ABSTRACT

[0107] A system and method employing optical disc drives for quantitative analysis of physical, chemical and biochemical parameters are provided. The system including a disc drive for supporting and rotating an optical disc including at least one sensor spot; a light source for directing light onto the sensor spot; at least one optical pickup for detecting light transmitted from the sensor spot, the transmitted light being indicative of a concentration of a compound; and an analog-to-digital converter for quantifying an intensity of the transmitted light. The method comprising the steps of preparing the optical disc with a plurality of sensor spots, the sensor spots being responsive to a compound; exposing the optical disc to a fluid; measuring intensity of transmitted light from at least one of the plurality of sensor spots; and correlating the measured intensity of transmitted light to an amount of compound exposed to the optical disc.